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ABSTRACT

Emphasized is the need to establish the functional use of language symbols as the ultimate goal of teaching language to retarded children. Theoretical support for implementation of a conceptually based language teaching program is presented along with procedures for structuring the child's environment to ensure the attachment of conceptual symbols. Five specific variables (which include decreasing the distracting stimuli), experimentally shown to influence concept learning, are presented as concept teaching strategies. Each of the five strategies serves to highlight the perceptual similarities in surrounding events. It is noted that in this program the child is presented with exaggerated examples of a concept at the same time he is exposed to the word used to symbolize that concept; thus, the child learns both the concept and the language symbol at the same time. (Author/SBH)

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A CONCEPTUALLY BASED APPROACH TO TEACHING
LANGUAGE TO RETARDED CHILDREN

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ABSTRACT

This paper emphasized the need to establish the functional use of language symbols as the ultimate goal of teaching language to retarded children. To achieve this goal, the meaning a child attaches to a word or grammatical construction must be a concept; the meaning of a word must be some specific recurring similarity in environmental events. Theoretical support for implementation of a conceptually based language teaching program is presented along with procedures for structuring the child's environment to ensure the attachment of conceptual meaning to symbols. Five specific variables, experimentally shown to influence concept learning, are presented as concept teaching strategies. Each of the five strategies serve to highlight the perceptual similarities in surrounding events. In this program the child is presented with exaggerated examples of a concept at the same time he/she is exposed to the word used to symbolize that concept. Thus, the child learns both the concept and the language symbol at the same time.

The purpose of this paper is to advocate a conceptually based language teaching program for the retarded. The rationale is simple. Language is a conceptually based system.

Language is a conceptually based system because words rarely stand for singular, unique events. Instead, words stand for concepts or groups of objects and events that share similar characteristics (Brown, 1958). It is our shared knowledge of concept-word relationships that allows us to communicate about novel events (Carroll, 1967). When we use a word we are conveying information about the perceptual similarities of a group of objects or events. For example, when we use the word 'hot' we are conveying information about the characteristic temperature that all hot things share.

Since information about similar aspects of objects and events is communicated via a language system, the acquisition of language is said to be dependent on the perceptual-conceptual identification of similarities in environmental events (Bloom, 1970; MacNamara, 1972; E. Clark, 1973; and Miller and Yoder, 1974). The relationship between the perceptual identification of similarities in objects and events and language learning is probably best illustrated by E. Clark's (1973) work. Clark inferred children's conceptual meaning of words by analyzing errors in word usage. When a child says 'off', for example, as she falls down the stairs or when she drops blocks on the floor, we can infer that the child is attaching the meaning of downward movement of the word 'off'. Clark says that errors in word usage suggest that children learn the meanings of words by associating a word with common element/s in the events they experience. In order

for a child to learn the word 'off', for example, she must hear the word in relation to such activities as taking tape off a wall, taking clothes off and removing sand from her feet. She must also abstract the concept's defining characteristic of 'downward movement' from the many non-defining characteristics such as the particular objects manipulated. It is the child's eventual use of the word in new situations and novel extension of the word to similar events that suggests that the word stands for a concept or the similarity that exists in a group of actions.

Miller and Yoder (1974) state that the acquisition of language in mentally retarded children, like that of normal children, is related to their perceptual identification of similar aspects of experiences. To acquire a truly generative communication system, the retarded child must also attach words to common features in the objects and events they experience. There is indication that retarded children's language learning difficulty is in the perceptual abstraction of similarities in objects and events rather than in the linguistic attachment of word to event. Zeaman and House (1963) have shown that retarded children have difficulty identifying aspects of events and that their ability to abstract is related to concept learning.

Evidence that the nature of language difficulty in mentally retarded children is related to perceptual identification of similarities in events comes from observations of retarded children who produce echolalic or stereotypical speech. Echolalic or stereotypical utterances are frequently associated with mental retardation (Molloy, 1961; and Hilliard and Kirman, 1965) and reflect the use of words without a conceptual understanding. Stereotypical utterances reflect the attachment

of words to undifferentiated aspects of specific events. They do not have communicative value because they cannot be used to represent novel events and they should not be mistaken for language.

The goal of a language program for the retarded should be the communication of novel events. This can be accomplished by teaching retarded children words for the recurring similarities in the environment that they can identify (Miller and Yoder, 1974; and Holland, 1975). Language programs which are not based on what the child perceptually-conceptually knows, for example those which focus on training speech or syntactical rules and those which attach words to a narrow set of specific events, may inadvertently facilitate echolalia or the production of stereotypical utterances in retarded children instead of providing them with a generative language system.

Providing the child with a generative language system by teaching the child to symbolize what he/she can perceive is a theoretically sound position. There is, however, a logical extension to the notion of teaching the child words for objects and events he can identify. In the case of teaching language to the retarded, where the nature of language learning difficulty is felt to be in the perceptual identification of similarities in environmental events, language programs should assume the responsibility of insuring that the child does in fact perceptually identify recurring similarities in objects and events as they exist in the child's natural environment. With this direction, the literature on concept formation becomes the theoretical base for language assessment and programming for the retarded.

Implementation of a conceptually-based language teaching approach entails structuring the environment so the child abstracts the perceptual similarities in surrounding events. Determinations regarding specific goals for such a program come from two sources: 1) information about the process and sequence of normal perceptual-conceptual development and 2) information obtained from evaluating the individual child.

Since language is a conceptually based system, the language evaluation should include evaluations of conceptual behavior (Morehead and Morehead, 1974; and Miller and Yoder, 1974). Specifically, there is a need to make determinations regarding: 1) the size of the gap between linguistic and conceptual functioning and 2) what non-verbal concepts the child does and does not know. Bloom (1970) states that in normal language acquisition there is a gap between what a child can signal linguistically and his conceptual understanding of the environment. Deaf children have characteristically 'larger than normal' gaps between non-verbal knowledge of the environment and knowledge of the language system (Furth, 1966). Determining if an unusually large conceptual-linguistic gap exists provides us with information about the underlying cause of language retardation and thus has implications for remediation.

Determining specifically what the child knows conceptually helps in determining what non-verbal concepts to teach. Since we can only expect the child to symbolize what he non-verbally knows, we must derive some way of determining specifically what that is. Methods currently used to evaluate conceptual behavior include observations of the child's object manipulation (Miller, 1974; and Chappell and Johnson, 1976), object sorting (Goldman and Levine, 1963; Ricciuti, 1965; and Sigel, 1953), and over-generalization of word

usage (E. Clark, 1973). These behaviors all reflect the generalization of conceptual information, information about perceptual similarities in events, to novel situations. The child who picks up a brush he has never seen before and brushes his hair suggests that he has abstracted information about the object's function from its non-defining physical characteristics. If our focus is on teaching children to perceptually identify similarities in environmental events, conceptually based tasks not only become a way of determining what concepts to teach, but become the criteria for evaluating the validity and effectiveness of our mission.

Further information about 'what concepts to teach' comes from information regarding the process and sequence of perceptual-conceptual development. E. Clark (1973), Miller and Yoder (1974) and Holland (1975) say that determining what language to teach should be based on what aspects of the environment children are first capable of perceiving. In addition to acquiring an awareness of groups of familiar objects such as books, dogs, and hats, young children also learn to identify similar actions and attributes of experiences. They learn such concepts as non-existence or 'allgone' and possession or 'mine'. Thus, specific goals depend upon what concepts a particular child has not yet acquired and the sequence of perceptual-conceptual development in normal children.

Remediation of retarded children's conceptually-based language deficit entails highlighting the similarities in common experiences and attaching a symbol (word, sign or grapheme) to those experiences. Emphasis in this approach is on arranging environmental variables to insure that the child abstracts the concepts' defining feature/s. Five variables, presented here as teaching strategies, have

experimentally been shown to significantly influence concept learning in normal children and adults (D. Clark, 1971).

1. Exaggerate the Concepts Defining Features

The first language teaching strategy is to exaggerate the defining feature/s of the concept being taught. D. Clark (1971) suggests that this can be done by first identifying the defining feature of the concept and then increasing the value of that feature. For example, the defining feature of the concept 'heavy' is an object's weight. The perceptual salience of 'heavy' can be increased by exposing the child to objects that are extremely heavy and objects that are extremely light. The contrast between very heavy and very light objects of the same size exaggerates the feature of weight. The defining feature of the concept 'more' is recurrence and recurrence can be exaggerated by sheer repetition of an object or event. The perceptual salience of an action concept can be increased by motorically exaggerating the particular action.

2. Decrease Distracting Stimuli

Decreasing distracting stimuli is another way of increasing the child's ability to perceive the defining characteristics of a concept. Doing this entails merely limiting the number of different kinds of objects available and the number of ways in which the objects can be manipulated. For example, in acquiring the concept 'put on', if the child only experiences 'put on' actions he will not have to abstract that action from other 'non-put on' actions that are sometimes associated with getting dressed such as shoe tying or hair combing. It is more difficult to perceive shared features of a group of actions if examples are interspersed with random activity or examples of other concepts (D. Clark, 1971).

3. Present Many Examples of the Concept

The third teaching strategy is to present many different examples of the concept. Repetition of concept examples, while the child is attending, aids in the perceptual identification of similarities in events. Researchers have shown that as the number of positive examples of a concept increases, ease of concept attainment increases (Haygood and Stevenson, 1967; Long, 1965 and D. Clark, 1971). In acquiring the concept 'open', the child's perception of the activity of opening will be enhanced by the number of times he is exposed to the similar actions involved in opening a variety of different objects.

4. Presenting Examples of Concepts in a Systematic Way

Presenting examples of a concept in a systematic way is a matter of gradually increasing the number of non-defining features and presenting the concept in increasingly more distracting situations. This can be done systematically by controlling the numbers and types of distractions and by making sure that examples of the concept are exaggerated within the child's natural environment. Once the child can identify examples of a concept with the defining and non-defining feature/s controlled, work can begin on generalization of the concept by making sure that its defining feature is pointed out in natural environmental instances.

5. Provide the Child With A Sensory-Motor Response

The literature that looks at sensory-motor learning is abundant. Renowned researchers such as Harlow and Harlow (1962) and Held (1965) have shown that sensory-motor learning is significantly more effective than the presentation of visual or auditory stimulation alone. In attempting to highlight the perceptual salience of an event, the addition of a motor response provides the child with additional sensory information.

Church (1961) cites researchers who have found that perceptual identification of an object is heightened by the requirement of a motor response. Ways of eliciting a sensory-motor response include prompting the child to perform an action and providing experiences which, by their very nature, require a motor response. In teaching the word 'allgone', for example, the child can be prompted to dump out the contents of a box, turn it upside down, shake it and look into it.

By manipulating variables such as the number of distracting features and the number of presentations of concept examples, we can expose the child to similarities. The process is one whereby we insure both that retarded children conceptually have an understanding of environmental events and that they attach symbols to their knowledge of those events. Determination of the success of such a language teaching program can be made when the child can identify concept examples she/he has never seen before and when she/he can spontaneously apply the concept's symbol (word, sign, grapheme) to signal novel but similar experiences.

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